

REMARKS

Claims 1-3 remain pending in this application. Claims 1-3 are rejected. Claims 4-8 are previously cancelled. Claims 1-3 are amended herein to clarify the invention, to express the invention in alternative wording and to address matters of form unrelated to substantive patentability issues

Applicant herein traverses and respectfully requests reconsideration of the rejection of the claims and objections cited in the above-referenced Office Action.

The Office Action states that the specification is objected to due to various informalities. The specification is amended to address the bases of the objection noted on the Office Action, and also to correct various typographical, grammatical and idiomatic informalities. Applicant submits herewith a substitute specification and abstract in accordance with 37 CFR 1.125(c) wherein amendments are effected to remove cites to claims and place the text thereof into proper English, correcting various typographical, grammatical and idiomatic informalities including those noted in the Office Action. These include substituting the terminology of “workpiece to be cut” in place of “cutting member,” as is believed to more appropriately reflect normally accepted meaning in the art, and as suggested by the Examiner. The claim amendments, which remove the recitation directed to “a vertical rotatable part of said supporting member” is considered by applicant to effectively moot the objection to the specification based upon such claim language. Also accompanying this

amendment is a reproduction of the original specification with markings indicating the amendments effected in the substitute specification in accordance with MPEP §608.01(q) and 37 CFR 1.125(b). No new matter is added. Withdrawal of the objection and entry of the substitute specification are respectfully requested.

The Examiner objects to the drawings under 37 C.F.R. § 1.83(a) for failing to show every feature of the invention specified in the claims. It is stated that the drawings do not show the “vertical rotatable part of said supporting member” according to the claims. The claims are amended to remove grounds for said objection, using instead, terms referring to elements clearly depicted in the drawings. Thus, reconsideration of the objection to the drawings and withdrawal thereof are earnestly solicited.

Claim 1 is rejected under 35 U.S.C. § 102(b) as being anticipated by Chen (US 5,778,752). Applicant herein respectfully traverses this rejection. “Anticipation requires the presence in a single prior art reference disclosure of each and every element of the claimed invention, *arranged as in the claim.*” *Lindemann Maschinenfabrik GmbH v. American Hoist & Derrick Co.*, 221 USPQ 481, 485 (Fed. Cir. 1984) (emphasis added). It is respectfully submitted that the cited reference is deficient with regard to the following.

Claim 1 recites in pertinent part the following:

a base including an upper surface upon which the workpiece is receivably supportable, the workpiece, when receivably supported on the upper surface with an end of said workpiece contacted with the floor, being oriented at a slope relative to said floor;

a supporting member including a rear portion pivotably attached to said base for vertical movement of a forward portion thereof when pivoted relative to said base;

a cutting device being carried on said forward portion of said supporting member, said cutting device including a cutting blade and a motor for rotatably driving said cutting blade so as to be operable for cutting said workpiece when the workpiece is receivably supported on said upper surface of said base, and said supporting member is downwardly pivoted in a direction of the workpiece; and

a mechanism configured to be operable to rotate said base such than an orientation of the upper

surface of said base corresponds to the slope of the workpiece receivably supported on said upper surface of said base, said cutting device being rotated along with said base such that a constant angular relationship is maintained between said cutting blade and said upper surface of said base, irrespective of a degree of the slope

As recited, the claim requires that cutting device is rotated along with the base to which it is attached such that a constant angular relationship is maintained between said cutting blade and said upper surface of said base, irrespective of a degree of the slope. It is respectfully submitted that no such structural configuration is taught or suggested in Chen. Rather, in Chen, an upper surface of a table 16 is intentionally tilted relative to the cutting blade so that the workpiece (W) can be cut at a desired tilt angle within ranges “C” or “D” (see, for example, col. 5, lines 23-38).

Claim 1 particularly describes and distinctly claims at least one element not disclosed in the cited reference. Therefore, reconsideration of the rejection of claim 1 and its allowance are respectfully requested.

Claims 1-3 are rejected as obvious over Eastwood (US 2,249,814) in view of Chen under 35 U.S.C. §103(a). The applicant herein respectfully traverses this rejection. For a rejection under 35 U.S.C. §103(a) to be sustained, the differences

between the features of the combined references and the present invention must be obvious to one skilled in the art.

The final Office Action admits that the primary Eastwood reference fails to teach any structural means for sloping. As noted above, the structure providing sloping does so in a manner that intentionally effects a change in relative slope between the cutting blade and workpiece (W) (and consequently also the upper support surface of the table (16). This is clearly contrary to the claimed invention of claims 1-3, which requires that a constant angular relationship be maintained between the cutting blade and the base (and the workpiece supported thereon).

Thus, it is respectfully submitted that the rejected claims are not obvious in view of the cited references for the reasons stated above. Reconsideration of the rejections of claims 1-3 and their allowance are respectfully requested.

No fee is believed due. If there is any fee due the USPTO is hereby authorized to charge such fee to Deposit Account No. 10-1250.

In light of the foregoing, the application is now believed to be in proper form for allowance of all claims and notice to that effect is earnestly solicited.

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enc: Substitute Specification; and Marked reproduction of original specification.

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AUTOMATIC CUTTING DEVICE PUT ON A FLOOR AND
A SUPPORT DEVICE FOR AUTOMATIC CUTTING DEVICE
PUT ON A FLOOR

5 FIELD OF THE INVENTION

The present invention relates to an automatic cutting device, including a radial arm saw device, which is [[put]] placed on a floor, and a support device for the automatic cutting device which is [[put]] placed on a floor.

BACKGROUND OF THE INVENTION

10 The conventional radial arm saw device, which is [[put]] placed on a floor, is positioned with the cutting member workpiece to be cut on the base horizontally, the cutting operation then being [[and]] carried out the slitting operation.

In this way, there is no problem to carry in carrying out the slitting cutting operation when the cutting member workpiece to be cut is shortened, however. However, it is too hard to prepare to position the cutting member workpiece to be cut on the base horizontally by one person when the cutting member workpiece to be cut is long and heavy, comparatively. Then, the cutting operation [[it]] has to be carried out by more than two people. In addition, [[it]] the conventional device

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cannot cut the ~~cutting member~~ workpiece to be cut vertically if it cannot support the ~~cutting member~~ workpiece to be cut, well.

SUMMARY OF THE INVENTION

Accordingly, it is an object of the present invention to provide [[a]] an automatic cutting device which is [[put]] placed on a floor, and a support device for the automatic cutting device which is [[put]] placed on a floor which can be carried out easily by oneself in a condition that the ~~cutting member~~ workpiece to be cut is attached firmly to the base without reference to the length and weight of the ~~cutting member~~ workpiece to be cut.

The present invention is understood to encompass embodiments which include all, or only a portion of, the above objects, features and advantages which, unless recited in claims defining the invention, are understood not to limit interpretation of such claims. The above, and other objects, features and advantages of the present invention will become apparent from the following description read in conjunction with the accompanying drawings, in which like reference numerals designate the same elements.

It is to be expressly understood, however, that the drawings are for the purpose of illustration and description only, and are not intended as a definition of

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the limits of the invention.

BRIEF DESCRIPTION OF THE DRAWINGS

Fig. 1 is a front view showing a first embodiment of the present invention;

Fig. 2 is a side view showing a first embodiment of the present invention;

5 Fig. 3 is a plane view showing a first embodiment of the present invention;

Fig. 4 is an explanation view of a base showing a first embodiment of the

present invention;

Fig. 5 is an explanation view of a sloping means showing a first

embodiment of the present invention;

10 Fig. 6 is an explanation view showing the way in which a cutting member

workpiece to be cut is attached fixedly by sandwiching in a first embodiment of

the present invention;

Fig. 7 is an explanation view when in cutting use, showing a first

embodiment of the present invention;

15 Fig. 8 is an explanation view showing the way in which it cut cutting is

performed with an incline in a first embodiment of the present invention;

Fig. 9 is a plane view showing a second embodiment of the present
invention;

Fig. 10 is a cross sectional view taken along the line 10-10 in Fig. 9;

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Fig. 11 is a front view showing a third embodiment of the present invention;

Fig. 12 is a side view showing a third embodiment of the present invention;

5 Fig. 13 is an explanation view when in use showing a third embodiment of the present invention;

Fig. 14 is a front view showing a fourth embodiment of the present invention;

10 Fig. 15 is a bottom view showing a fourth embodiment of the present invention;

Fig. 16 is an explanation view of a sloping means showing a fourth embodiment of the present invention;

Fig. 17 is an explanation view when in use showing a fourth embodiment of the present invention;

15 Fig. 18 is a front view showing a fifth embodiment of the present invention;

Fig. 19 is a side view showing a fifth embodiment of the present invention;

20 Fig. 20 is an explanation view when in use showing a fifth embodiment of the present invention;

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Fig. 21 is a front view showing a sixth embodiment of the present invention;

Fig. 22 is a side view showing a sixth embodiment of the present invention;

5 Fig. 23 is an explanation view when in use showing a sixth embodiment of the present invention;

Fig. 24 is a front view showing a seventh embodiment of the present invention;

10 Fig. 25 is a side view showing a seventh embodiment of the present invention; and

Fig. 26 is an explanation view when in use showing a seventh embodiment of the present invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

Preferred embodiments of the present invention are described in more 15 detail below, referring to the accompanying drawings.

An understanding of the present invention may be best gained by reference Figs. 1 to 8. Reference numeral 1 is an automatic cutting device which is [[put]] placed on a floor. The automatic cutting device 1 is comprised of a base 7 further including a base body 3 forming a concave part 2 at a center portion in an upper

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portion thereof, a rotatable base 5 having an upper surface which is supported pivotably and rotatably at near 90 degrees by a pivot pin 4 at the concave part 2 of the base body 3, positioning the upper surface thereof horizontally to the upper surface of the base body 3, and an operation lever 6 which is projected from the 5 rotatable base 5 in an anterior direction, capable of rotating the rotatable base 5 at 45 degrees in a transverse direction. The automatic cutting device 1 further comprises[;;] a supporting member 10 for a cutting blade, attaching rotatably to a supporting arm 8, capable of making a cutting blade 9, which is formed in the shape of a disc saw, to position at a center portion of the rotation of the rotatable base 5. The, the supporting arm 8 [[which]] is attached fixedly to rear portion of 10 the rotatable base 5 of the base 7 so as to project upward.

A, a cutting device 13 including a motor 11 is attached to the supporting member 10 for the cutting blade and the cutting blade 9 as the disc saw attached to a drive shaft of the motor 11[;;], and a spring 14 serves to bias the supporting member 10 for the cutting blade upwardly every time. The cutting device 13 also comprises[;;] a handle 16 which is formed at a case 15 of the motor 11[;;], and a cover 17 which covers a part except for the under side of the cutting blade 9.

The automatic cutting device 1 further includes [;;] a holding device 22 including a fixable holding piece 19 having a cutting member workpiece to be cut 18 which is fixed on the base body 3, the cutting member workpiece to be cut 18

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being fixed at right angles to the cutting direction of the cutting blade 9 and a movable holding piece 21 capable of sliding on the base body 3 so as to attach fixedly by sandwiching the fixable holding piece 19, and ~~cutting member the workpiece to be cut~~ 18, having a lock mechanism 20 which can fix at an optional position. ~~Means, and means~~ for sloping the base 7 are provided (as sloping means 23), corresponding to the slope of the ~~cutting member workpiece to be cut~~ 18, which is attached fixedly by sandwiching the fixable holding piece 19 and movable holding piece 21 of the base 7.

The sloping means 23 further includes a shaft 24 provided at the cutting part of the cutting blade 9 of the base body 3 of the base 7 at a part as a shaft core, so as to project both ends outwards. A; a supporting frame 26 is formed with shaft holes 25, 25, into which are inserted the both ends of the shaft 24, capable of making the right and left sides of the base 7 [[to]] rotate in a horizontal direction. A; and a base-locking device 30, including a guide hole 27 for a locking pin 29, forming is formed at a part adjacent the end portion of the supporting frame 26, capable of locking so as to keep the horizontal state of the base 7, and an insertion hole 28 for the locking pin 29, is formed forming at the base body 3 and [[being]] is associated with the guide hole 27 at a generally horizontal state pretty much and the. The locking pin 29 [[which]] is inserted in the guide hole 27 and insertion hole 28, and locked.

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For the automatic cutting device 1 which is described, when the lengthy cutting member workpiece to be cut 18 is cut, the base-locking device 30 is released, and the cutting member workpiece to be cut 18 is positioned between the fixable holding piece 19 of the base 7 and movable holding piece 21 of the holding device 22. Then, the cutting member workpiece to be cut 18 is pushed to the fixable holding piece 19 by the movable holding piece 21 and is attached fixedly, by sandwiching by the locking mechanism 20.

Then, one end part of the lengthy cutting member workpiece to be cut 18 is positioned on the floor surface and becomes the slope surface. However, since the base 7 has the same incline to the incline of the cutting member workpiece to be cut 18 with a focus on the shaft 24 of the sloping means 23 by its weight of the cutting member workpiece to be cut 18 or pressing the cutting member workpiece to be cut 18 so as to contact the base body 3, the cutting member workpiece to be cut 18 can be fixed to the holding device 22 with ease of operation.

After that, it makes the motor 11 of the cutting device 13 to drive and drives the cutting blade 9 to rotate. Also, it makes the cutting blade supporting member 10 is made to move downward against the power of the spring 14 by the handle 16, and the cutting member workpiece to be cut 18 is cut by the cutting blade 9.

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Then, the The supporting member 10 attached the cutting blade 9 is provided to the rotatable base 5, which is attached rotatably to the base body 3, so that it can cut at a vertical state even though the base body 3 is positioned at a [[slope]] sloped state which corresponds the incline of the cutting member 5 workpiece to be cut 18.

In addition, the cutting member workpiece to be cut 18 is cut by rotating the rotatable base 5 in the right and left directions so it can cut with the predetermined incline at a vertical state in the length direction of the cutting member workpiece to be cut 18.

10 Other embodiments of the present invention will now be described referring to Figs. 9 to 26. Through the drawings of the embodiments, like components are denoted by like numerals as of the first embodiment and will not be further explained in great detail.

15 A second embodiment of the present invention is shown in Figs. 9 and 10, and is distinguished from the first embodiment by the fact that the base 7 is replaced with another base 7A, without the rotatable base. An automatic cutting device 1A with the base 7A, while unable to however it cannot cut [[slope]] a sloped surface, according to the second embodiment, has similar advantages to that according to the first embodiment.

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A third embodiment of the present invention is shown in Figs. 11 to 13, and is distinguished from the first embodiment by the fact that the sloping means 23 is replaced with another sloping means 23A, which further includes a supporting leg 32 provided to a center part at both sides of the base 7, rotating in the right and left directions by pivot pins 31, 31, forming formed in the shape of a C-letter, and having a flat surface at a bottom surface thereof, and a concave part 33 which is put the supporting leg 32 therein of the bottom of the base 7 into which the supporting leg 32 is received when it is not used. An automatic cutting device 1B with the sloping means 23A according to the third embodiment has similar advantages to that according to the first embodiment.

A fourth embodiment of the present invention is shown in Figs. 14 to 17 and is distinguished from the second embodiment by the fact that the sloping means 23 is replaced with another sloping means 23B. The sloping means 23B includes a screw rod 35 attached to the center portion of the bottom surface of the base 7A so as to rotate by rotation of the handle 34. Two-two operation rods 36, 36 threadably mounted on the screw rod 35, which is disposed at the anteroposterior part, moving in an anteroposterior direction which blocks the rotation at the bottom surface of the base 7A. Supporting, and supporting legs 39, 39 are supported pivotably at the bottom surface of the base 7A through mounting brackets 37, 37, having an upper part thereof being engaged with the operation

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rods 36, 36 a lower part thereof projecting downward compared to the bottom surface of the base 7A. An automatic cutting device 1C with the sloping means 23B according to the fourth embodiment has similar advantages to that according to the second embodiment.

5 A fifth embodiment of the present invention is shown in Figs. 18 to 20 and is distinguished from the second embodiment by the fact that the sloping means 23 is replaced with another sloping means 23C, that further includes a supporting plate 42 having supporting pieces 40, 40 which project upward from one end thereof, supported pivotably by pivot pins 41, 41 at one end of the base 7A so as 10 to rotate the right and left sides of the base 7A in the vertical direction. A,-a height adjustment mechanism 43, having a hand-operated jack, capable of setting the slope of the base 7A to a part between the base 7A and supporting plate 42 positioned at a side of the anti-pivot pins 41, 41 of the supporting plate 42 is 15 provided. An automatic cutting device 1D with the sloping means 23C according to the fifth embodiment has similar advantages to that according to the second embodiment.

20 In addition, the hand-operated jack, as the height adjustment mechanism 43, is used and explained in this embodiment. In addition, it can be used any kind of mechanisms, which can adjust the height, such as cams, slider moving on the slope and the like.

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A sixth embodiment of the present invention is shown in Figs. 21 to 23,
and is distinguished from the fifth embodiment by the fact that a support device
45 for the automatic cutting device is used, capable of supporting the conventional
automatic cutting device X at the supporting pieces 40, 40 of the supporting plate
5 42. The support device 45 for the automatic cutting device, supporting the
automatic cutting device X according to the sixth embodiment has similar
advantages.

A seventh embodiment of the present invention is shown in Figs. 24 to 26,
and is distinguished from the sixth embodiment by the fact that the sloping means
10 23C is replaced with another sloping means 23D which further includes the
supporting leg 32 provided at the center part of the support device 44, capable of
rotating the right and left sides of the support device 44 in the vertical direction. A
support device 45A for the automatic cutting device with the sloping means 23D
according to the seventh embodiment has similar advantages to that according to
15 the sixth embodiment.

In addition, the sloping means in the embodiments of the present invention
is the device to rotate the right and left sides of the base in the vertical direction,
and sloping means having the mechanism to rotate the right and left sides of the
base in the vertical direction may be used.

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Furthermore, the mechanism which can fix the leg member of the base on the floor on the condition that the base is inclined may be used.

Additionally, for each embodiment of the present invention, the holding device which fixes the ~~cutting member~~ workpiece to be cut is attached to the base, and the automatic cutting device, without the holding device, may be used on the condition that the device cuts the short and light ~~cutting member~~ workpiece to be cut, especially.

The present invention is utilized in the industry to manufacture the automatic cutting device which is put on a floor and a support device for the automatic cutting device which is put on a floor.

As set forth above, the advantages of the invention are as follows:

(1) The automatic cutting device which is put on a floor includes a base which can support a ~~cutting member~~ workpiece to be cut; a supporting member for a cutting blade, attaching a back end portion thereof to a part adjacent one end portion of a center part of the base, capable of rotating a tip portion thereof in a vertical direction; a cutting device, ~~driving~~ rotatably drivable by a motor provided at a vertical rotatable part of the supporting member, capable of cutting the ~~cutting member~~ workpiece to be cut supported by the base by the cutting blade; and the sloping means which can incline the base corresponding to a slope of the ~~cutting member~~ workpiece to be cut supported by the base. Therefore, the slope of the

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base can corresponds to the slope of the cutting member workpiece to be cut by positioning the cutting member workpiece to be cut to the base without the length and weight of the cutting member workpiece to be cut.

Accordingly, only one person can put the cutting member workpiece to be cut on the base at a closely contact and can operate to cut the cutting member workpiece to be cut in the vertical direction correctly.

(2) As discussed above, since all you need one needs to do is provide the sloping means, it is easy to manufacture.

(3) As discussed above, even though the cutting member workpiece to be cut is long and has heavy weight, it makes the cutting member workpiece to be cut can [[to]] be attached firmly to the base just to put simply by placing the cutting member workpiece to be cut on the base at a positioned state.

Accordingly, the slitting cutting operation can be carried out by oneself.

(4) Claims 2 to 9 have the same effect as the above-mentioned (1) to (3).

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ABSTRACT OF THE INVENTION

[[The]] An automatic cutting device which is [[put]] placeable on a floor includes a base upon which ~~can support a cutting member; a workpiece to be cut is receivably supportable.~~ A supporting member for a cutting blade is provided, 5 attaching a back end portion thereof being pivotably attached to ~~a part adjacent one end portion of a center part of the base, capable of rotating a tip such that a forward~~ portion thereof [[in]] is movable in a vertical direction; a The automatic cutting device further includes a cutting device including, driving rotatably by a motor for rotatably driving the cutting blade, carried on a forward portion of the 10 supporting member, provided at a vertical rotatable part of the supporting member, capable of cutting the cutting member workpiece to be cut supported by the base by the cutting blade. A mechanism configured to be operable to, and the sloping means which can incline the base corresponding to a slope of the cutting member supported by the base is provided, such than an orientation of the upper surface of the base corresponds to the slope of the workpiece receivably supported by the base Therefore, only one person can put the cutting member on the base at a closely contact and can operate to cut the cutting member without the length and weight of the cutting member.